

## STATEMENT OF LEGAL AND FACTUAL BASIS

Volvo Trucks North America, Inc.  
State Route 643  
Dublin, Virginia  
Permit No. VA-20765

Title V of the 1990 Clean Air Act Amendments required each state to develop a permit program to ensure that certain facilities have federal Air Pollution Operating Permits, called Title V Operating Permits. As required by 40 CFR Part 70 and 9 VAC 5 Chapter 80, Volvo Trucks North America has applied for a Title V Operating Permit renewal for its facility. The Department has reviewed the application and has prepared a final Title V Operating Permit.

## **FACILITY INFORMATION**

### Permittee

Volvo Trucks North America, Inc.  
7900 National Service Road  
Greensboro, NC 27402

### Facility

Volvo Trucks North America, Inc.  
P.O. Box 1126  
Dublin, VA 24084

County-Plant ID No. 51-155-0041

## **SOURCE DESCRIPTION**

SIC Code: 3711

NAICS Code: 336120

Volvo Trucks North America, Inc. is a producer of heavy duty trucks located in Pulaski County on state route 643 (Cougar Trail) near Dublin, Virginia. Volvo presently produces heavy duty trucks by on site assembly including painting of the entire cab. Volvo has formalized an ongoing extensive recordkeeping procedure to document the coating usage at the facility. A computer database has been developed to track the amount of each type of paint or coating used at each plant operation, the amount, if any, returned to storage, and the amount sent to off-site waste disposal. From this database, Volvo prepares a monthly material balance of the total consumption of coatings, VOCs, and paint particulate as well as a monthly consumption of all air toxics. This permit extends that recordkeeping to include all Hazardous Air Pollutants. The monthly emissions are then estimated based on the operational area where the consumption occurred and the capture efficiency and the efficiency of emission controls for that operational area. One of the two booths in the 8PE area has VOC control, so these booths have separate record keeping requirements.

The facility is a Title V major source of Volatile Organic Compounds, nitrogen oxides, carbon monoxide, and Hazardous Air Pollutants. This source is located in an attainment area for all pollutants, and is a PSD major source for VOCs. In a permit for a major plant expansion, all significant emission sources at the facility were included in a permit to modify and construct issued as a Minor NSR Permit on April 29, 1999, either as new sources, modified source, or existing equipment covered by the conditions of the permit. That permit was modified three times to reflect design changes in the later stages of the expansion, with the last revised permit was issued on July 27, 2000, to make the permit conditions consistent with the design revisions. The official completion date for the expansion project was January 2, 2002.

Following the first issuance of this federal operating permit, effective June 1, 2002, the testing required showed that the particulate control requirements for the PC area were too stringent since these were expressed in percentage control and the inlet loading was lower than anticipated. A revised New Source

Review permit was issued on February 26, 2003, to include an alternate compliance standard in grains per cubic foot. This permit also increased the particulate limits from the PC area since the original limits were derived from modeling for lead chromate, regulated only under state-only-enforceable regulations. The previous very low limit was based on the assumption of simultaneous lead chromate emissions from both paint lines and the PC area. Volvo has revised its commercial paint formulation eliminating lead chromate. The only lead chromate sources are a Department of Defense contract specifying a lead chromate containing coating and touch-up of pre-painted parts. Since lead chromate is now expected to be present as a worst case in only one paint booth and the PC area, the PC area particulate limits were increased.

In 2005 Volvo was issued a PSD permit for a plant expansion to add a third basecoat booth and a second clearcoat booth. Market conditions changed before construction began and the permit was deemed void for failure to construct in a timely manner. On March 7, 2007 a new NSR permit was issued effectively reinstating the conditions of the 2003 permit. One significant change occurred with this revision, the facility revised its operation to use the 8PE-002 booth for basecoat and the 8PE-001 booth for Multi-Tone (decorative) painting. Based on the reduced throughput, Volvo chose to take enforceable permit limits on the 8PE-001 booth and revise the BACT analysis. The new analysis determined that no control was BACT at the revised throughput. The PSD impact for the removal of the existing zeolite control system was an increase of 39.0 tons of VOC and approximately 13 tons of PM<sub>10</sub>. This change was below PSD significance level and did not require a formal PSD permit. The zeolite adsorber will be removed shortly after this federal operating permit renewal removes the requirement for its use. In preparing the federal operating permit renewal, several minor errors were discovered in the March 7, 2007 permit. These were corrected by amendment on August 21, 2007. References to the March 7, 2007 NSR permit should be interpreted as referring to that permit as amended August 21, 2007.

The only NSPS requirement which presently applies to this facility is NSPS Dc for the Phosphate Heater, which required notification to USEPA of the installation of a process heater in excess of 10 MMBTU/hr fueled by natural gas. The NSPS also requires monthly records of the fuel throughput. The facility is also subject to MACT MMMM (Miscellaneous Metal Parts Coating) and MACT PPPP (Miscellaneous Plastic Parts Coating). The facility will comply with these MACTs by monthly emissions averaging. The facility will not take control credit for the organic HAP control unit on 8PE-002, but reserves the right to do so at a future date. Limits on coating content were placed in the NSR permit of March 7, 2007 to reflect this methodology. Final compliance date for MACT record keeping methodology is after the expected renewal of this permit. Minor revisions may be necessary. If so, the permit will be reopened accordingly.

## **COMPLIANCE STATUS**

The facility is inspected at least once in each two calendar years. The facility is in compliance with the State Air Pollution Control Board regulations.

## **EMISSION UNIT AND CONTROL DEVICE IDENTIFICATION**

The emission units are grouped as follows:

Fuel Burning Equipment	All fuel burning equipment with capacity to emit above the insignificant source level. Details in table.
Manufacturing Equipment	A brief description of each operational unit follows. The emission and control details appear in the table.

Chassis Assembly (1PE-001 & 1PE-002): This section of the plant assembles the chassis for trucks produced in another section of the plant. Presently, 80-90% of the chassis are painted with water-based black paint while the rest are painted with high solids solvent based paints. Each line has a spray booth, flash area, bake oven and cooling tunnel.

Phosphate System (2PE-001): Metal cab components are welded together and the assembled cabs go through a phosphate wash system that applies a 10-step metal pre-treatment and cleaning process

E-Coat (3PE-001): The electrodeposition process involves immersing the cabs in a dip tank with electrically charged base prime paint. The coated trucks are cured in an oven. The oven has a fume incinerator, which is primarily for odor control.

Sealer & Brackett (4PE-001): A sealer for watertight bonds is applied at seams and joints. The sealers are cured in a bake oven.

Primer (5PE-001): Primer is manually applied in a spray booth after which the cab passes through a curing oven and a cooling tunnel.

Washing (6PE-001): Cabs and plastic parts that will be painted before attachment are washed prior to paint application. They proceed through a dry-off oven and clean tunnel. Occasionally minor sanding is performed on the finish.

Touch-Up/Specialty (7PE-001): This is a spray booth where touch-ups prior to painting occur. Volvo anticipates some specialty coating processes may be tested in this booth.

Multi-Tone Booth & Basecoat Booth (8PE-001 and 8PE-002): These spray booths are where the color paint is applied to the cabs. Multi-Tone refers to the process of painting more than one color on a cab. The 8PE-001 booth will be uncontrolled for VOC upon issuance of this permit. The 8PE-002 booth uses air recirculation to concentrate VOC fumes prior to control by a VOC incinerator. Both spray booths are followed by heated flash-off areas.

Clearcoat (9PE-001): A clearcoat is applied and the cabs go through a flash-off tunnel and a bake oven.

Spot Inspection (10PE-001 & 10PE-002): The cabs undergo a spot inspection. Two spot repair stations are located in this area for very minor touch-up. Cabs requiring extensive touch-up go to the Pre-Conditioning Building.

Final Inspection (11PE-001): Final inspection step. The cabs are then joined to the chassis.

Central Air (12FBE-001, 12FBE-002, and 12 FBE-003): This section is designated for the main HVAC equipment for the facility.

Pre-Conditioning (13PE-001, 13PE-002, and 13PE-004): After final assembly the completed trucks are taken to the Pre-Conditioning Building for final repairs and paint touch-up. Chasis touch-up is done in the 13PE-002 booth and cab touch-up is done in the other booths. (13PE-003 was removed, 13PE-005 was permitted but not installed.)

Auxiliary Heating Equipment (14FBE-001, 15FBE-001, 16FBE-001): This is an additional boiler and two air make-up units that will be needed for temperature and humidity control if proposed water-based paints are used. These paints are not presently in use, however, if tests show successful results, these lower VOC coatings are planned for the period of this permit.

## Emission Units

Equipment to be operated consists of:

Emission Unit ID	Stack ID	Emission Unit Description	Size/Rated Capacity*	Pollution Control Device (PCD) Description	PCD ID	Pollutant Controlled	Applicable Permit Date
<b>Fuel Burning Equipment</b>							
1FBE-001	XXX.1	North Chasis Oven (Direct Fired)	3.0 MMBTU/hr				3/7/07
1FBE-002	NN.1	South Chasis Oven (Direct Fired)	3.0 MMBTU/hr				3/7/07
1FBE-003	WWW.1	North Chasis Air Make-Up Unit	7.56 MMBTU/hr				3/7/07
1FBE-004	MM.1-MM.6	South Chasis Air Make-Up Heater	5.44 MMBTU/hr				3/7/07
2FBE-001/ 6FBE-001	BBB.1	Phosphate Solution/Washer Heater	25.2 MMBTU/hr				3/7/07
3FBE-001	EEE.1	E-Coat Oven w/ incinerator	5** MMBTU/hr	incinerator	3PC-01	VOC, Odor	3/7/07
5FBE-001	GGG.5	Primer Oven Zone 1 Burner	3.43 MMBTU/hr				3/7/07
5FBE-002	GGG.6	Primer Oven Zone 2 Burner	2.63 MMBTU/hr				3/7/07
5FBE-003	GGG.7	Primer Oven Zone 3 Burner	2.63 MMBTU/hr				3/7/07
8FBE-001	PPP.3	Multi-Tone Oven – Zone 1 Burner (Booth #1)	3.43 MMBTU/hr				3/7/07
8FBE-002	PPP.4	Multi-Tone Oven – Zone 2 Burner (Booth #1)	2.63 MMBTU/hr				3/7/07
8FBE-004	BFE.1	Basecoat Oven – Zone 1 Burner (Booth #2)	3.0 MMBTU/hr				3/7/07
8FBE-005	BFE.2	Basecoat Oven – Zone 2 Burner (Booth #2)	5.0 MMBTU/hr				3/7/07
8FBE-006	BFE.3	Basecoat Oven – Zone 3A Burner (Booth #2)	3.0 MMBTU/hr				3/7/07
8FBE-007	BFE.4	Basecoat Oven – Zone 3B Burner (Booth #2)	3.0 MMBTU/hr				3/7/07
8FBE-008	PPX.3	Basecoat Oven – RTO Incinerator Exhaust (Booth #2)	5.0 MMBTU/hr	RTO	8PC-05	VOC	3/7/07

Emission Unit ID	Stack ID	Emission Unit Description	Size/Rated Capacity *	Pollution Control Device (PCD) Description	PCD ID	Pollutant Controlled	Applicable Permit Date
9FBE-001	SSS.3	Clearcoat Oven Zone 1	3.43 MMBTU/hr				3/7/07
9FBE-002	SSS.4	Clearcoat Oven Zone 2	2.6 MMBTU/hr				3/7/07
9FBE-003	SSS.6	Clearcoat Oven Zone 3	4.2 MMBTU/hr				3/7/07
12FBE-001	SSS.1&2, MMM.1, GGG.1&2	Central Air Make-Up Heater	56.2 MMBTU/hr				3/7/07
13FBE-001	P.1 - P.6	Truck Repair Oven Exhaust (001)	2.39 MMBTU/hr				3/7/07
13FBE-002	P.5 & P.6	Supply Air Heater – 13PE-001	6.48 MMBTU/hr				3/7/07
13FBE-003	O.1&2	Air Make-Up Heater - 13PE-002	3.89 MMBTU/hr				3/7/07
13FBE-003A	O.3	Air Make-Up Heater - 13PE-002A	3.89 MMBTU/hr				3/7/07
13FBE-005	Q.1 – Q.4	Air Make-Up Heater – 13PE004	4.68 MMBTU/hr				3/7/07
13FBE-005A	Q.5	Air Make-Up Heater – 13PE004A	4.68 MMBTU/hr				3/7/07
13FBE-006	(indoor vent)	PC Building Heater	0.5 MMBTU/hr				3/7/07
14FBE-001	BBB.2	Burnham Industries Boiler – Humidity Control for 8PE-002	6.3 MMBTU/hr				3/7/07
15FBE-001	PPP.1&2	Make-Up Air Unit for Multi-Tone/ Basecoat Booth #1 (8PE-001)	23.5 MMBTU/hr				3/7/07
16FBE-001	PPX.3, (PPX.4)	Make-Up Air Unit for Multi-Tone/ Basecoat Booth #2 (8PE-002)	12.2 MMBTU/hr				3/7/07
<b>Heavy Truck Manufacturing Process</b>							
1PE-001	MM.1-7	South Chasis Paint Booth		Water Curtain	1PC-01	PM10, TSP	3/7/07
1PE-001A	NN.1	South Chasis Curing Oven					3/7/07
1PE-001B	OO.1	South Chasis Oven Cooler					3/7/07
1PE-002	WWW.1	North Chasis Paint Booth		Venturi Scrubber <sup>1</sup>	1PC-02	PM10, TSP	3/7/07
1PE-002A	XXX.1	North Chasis Curing Oven					3/7/07
1PE-002B	YYY.1	North Chasis Oven Cooler					3/7/07
2PE-001	AAA.1&2,	Phosphate System					3/7/07
3PE-001	No stack	E-Coat Process					3/7/07
3PE-001A	CCC.1	E-Coat Tunnel					3/7/07
3PE-001B	EEE.1	E-Coat Oven					3/7/07

Emission Unit ID	Stack ID	Emission Unit Description	Size/Rated Capacity*	Pollution Control Device (PCD) Description	PCD ID	Pollutant Controlled	Applicable Permit Date
3PE-001C	DDD.1	E-Coat Oven Cooler					3/7/07
3PE-001D	FFF.2	E-Coat Scuff Station					3/7/07
4PE-001	(no stack)	Seam Sealer/Bracket Attach					3/7/07
4PE-001A	(no stack)	Cab Wipe/Prime Tack-Off					3/7/07
5PE-001	GGG.1	Primer Process – Robotic Zone		Venturi Scrubber <sup>1</sup>	5PC-01	PM10, TSP	3/7/07
5PE-001A	GGG.2	Primer Process – Manual Zone		Venturi Scrubber <sup>1</sup>	5PC-02	PM10, TSP	3/7/07
5PE-001B	GGG.8	Primer Oven Exhaust					3/7/07
5PE-001C	GGG.3	Primer Oven Cooler					3/7/07
6PE-001	JJJ.1	Prep Booth/Sand Booth					3/7/07
6PE-001A	WWE.1	Washing Process					3/7/07
6PE-001B	LLL.1	Dry-Off Area					
7PE-001	MMM.1	Specialty/Touch-Up Painting – Waterborne & High Solids		Venturi Scrubber <sup>1</sup>	7PC-01	PM10, TSP	3/7/07
8PE-001	PPP.1&2	Multi-Tone Booth # 1 Waterborne & High Solids Coating		Venturi Scrubber <sup>1</sup>	8PC-01	PM10, TSP	3/7/07
8PE-001A	PPP.5	Multi-Tone Oven # 1					3/7/07
8PE-001B	PPP.6	Multi-Tone Cooler # 1					3/7/07
8PE-002	PPX.3 (PPX.4 bypass)	Basecoat Booth # 2 Waterborne & High Solids Coating		Venturi Scrubber <sup>1</sup> , Incinerator	8PC-04, 8PC-05	PM10, TSP, VOC	3/7/07
8PE-002A	BOE.1	Basecoat Oven # 2					3/7/07
8PE-002B	QQQ.4	Basecoat Cooler # 2					3/7/07
8PE-002C	RRR.1	Basecoat Booth # 2 Demask Station					3/7/07
9PE-001	SSS.1&2	Clearcoat Spray Booth		Venturi Scrubber <sup>1</sup>	9PC-01	PM10, TSP	3/7/07
9PE-001A	SSS.5	Clearcoat Curing Oven					3/7/07
9PE-001B	TTT.3	Clearcoat Cooler # 1					3/7/07
9PE-001C	TTT.5	Clearcoat Cooler # 2					3/7/07
10PE-001, 10PE-002	UUU.1	Spot Repair (BC/CC)		Dry filters	10PC-01, 10PC-02	PM10, TSP	3/7/07
11PE-001	VVV.1	Inspection & Repair Booth		Dry Filter	11PC-01	PM10, TSP	3/7/07
13PE-001	P.1-4	PC Booth # 1: Cab Touch-Up		Water Curtain	13PC-01	PM10, TSP	3/7/07



Emission Unit ID	Stack ID	Emission Unit Description	Size/Rated Capacity*	Pollution Control Device (PCD) Description	PCD ID	Pollutant Controlled	Applicable Permit Date
13PE-001A	P.5 & P.6	PC Booth #1 Oven					3/7/07
13PE-002	O.1&2	PC Booth # 2: Cab Touch-Up		Dry Filter	13PC-02	PM10, TSP	3/7/07
13PE-002A	O.3	PC Booth #2 Oven					3/7/07
13PE-004	Q.1-4	PC Booth # 4: Truck Touch-Up		Dry Filter	13PC-04	PM10, TSP	3/7/07
13PE-004A	Q.5	PC Booth #4 Oven					3/7/07

\*The Size/Rated capacity is provided for informational purposes only, and is not an applicable requirement.

\*\* Based on maximum heat input of RTO

<sup>1</sup>Based on process considerations, some booths may operate two Venturi scrubbers in parallel

## **EMISSIONS INVENTORY**

The emissions from the 2006 calendar year are summarized below:

Total VOC Emissions: 296.68 tons

Total NOx Emissions: 27.59 tons

Total CO Emissions: 22.39 tons

Total SO2 Emissions: 0.16 tons

Total PM-10 Emissions: 17.75 tons

### **Significant HAP Emissions**

Xylene: 4.59 tons

Toluene: 1.43 tons

Ethyl Benzene: 1.75 tons

Methyl Isobutyl Ketone 0.17 tons

Methanol 0.23 tons

Ammonia 0.85 tons

## EMISSION UNIT APPLICABLE REQUIREMENTS

### New Source Review Permit Requirements

The majority of conditions contained in the federal operating permit are requirements necessary to comply with the conditions of the New Source Review permit for the facility issued March 7, 2007, and amended August 21, 2007. A Copy of the permit is attached as Appendix B. The conditions of the federal operating permit and the corresponding conditions of the NSR permit are displayed in the table below:

Title V Condition	NSR Condition	Description	VAC Applicable Requirement
III-A-1	15	Approved fuels are natural gas & propane	9 VAC 5-80-1180
III-A-2	16	Natural gas annual throughput limit	9 VAC 5-80-1180
III-A-3	23	Combustion product emission limits	9 VAC 5-50-260, 9 VAC 5-80-110
III-A-4	25	Visible emissions limit for ovens and incinerators	9 VAC 5-50-260, 9 VAC 5-80-110
III-A-5	17	Compliance with NSPS Dc	9 VAC 5-50-410
III-A-7	34	Standards for maintenance & operation practices	9 VAC 5-50-20
III-C-1	29g	Monthly and annual consumption of natural gas for entire facility	9 VAC 5-50-50
III-C-2	29h	Daily, monthly and annual consumption of natural gas for phosphate system heater	9 VAC 5-50-50, (NSPS Dc)
III-C-3	29l	Monthly and annual emissions from gas and propane combustion for entire facility	9 VAC 5-50-50
III-D-1	12	Provide test ports at appropriate locations on request	9 VAC 5-50-30
IV-A-1	2	BACT as design specifications cited for particulate control devices	9 VAC 5-80-1180, 9 VAC 5-50-260
IV-A-2	3	BACT as water-based or high solids coatings in certain applications	9 VAC 5-50-260
IV-A-3	4	BACT as water-based primers	9 VAC 5-50-260
IV-A-4	5	BACT as water-based E-coat	9 VAC 5-50-260
IV-A-5	6	Basecoat Booth #2 VOC incinerator and instrument requirement	9 VAC 5-80-1180, 9 VAC 5-50-260
IV-A-6	7	VOC Content limit (lbs/gal) as BACT for spray booths without VOC controls	9 VAC 5-80-1180, 9 VAC 5-50-260, 9 VAC 5-50-180
IV-A-7	8	HAP content limits on coatings as annual average [MACTs MMMM & PPPP]	9 VAC 5-80-1180, 9 VAC 5-60-100
IV-A-8	9	Minimize cleaning & purging emissions	9 VAC 5-40-20
IV-A-9	10	Alternative control procedure	9 VAC 5-80-110
IV-A-10	11	Requirements by reference MACT MMMM	9 VAC 5-60-100
IV-A-11	12	Requirements by reference MACT PPPP	9 VAC 5-60-100
IV-A-12	13	Annual VOC throughput limit for coating content	9 VAC 5-80-10, 9 VAC 5-80-110
IV-A-13	14	Monthly VOC throughput limit for coating content	9 VAC 5-80-10, 9 VAC 5-80-110
IV-A-14	21	VOC emission limit for Multi-Tone spray booth 8PE-001	9 VAC 5-50-260, 9 VAC 5-80-1615
Title V	NSR	Description	VAC Applicable Requirement

Condition	Condition		
IV-A-15	21	VOC emission limit for painting/coating for all spray booths combined	9 VAC 5-50-260, 9 VAC 5-80-1615
IV-A-16	23	Particulate emission limits for spray booths broken down by operation unit	9 VAC 5-50-260, 9 VAC 5-50-30
IV-A-17	25	Visible emissions limit for spray booths	9 VAC 5-50-260
IV-B-1	6	Basecoat Booth #2 VOC incinerator temperature monitoring requirements	9 VAC 5-80-1180, 9 VAC 5-50-260
IV-B-2	11	Spray booths particulate control monitoring (pressure differential gauges)	9 VAC 5-80-1800, 9 VAC 5-50-20, 9 VAC 5-50-260
IV-C-1	29q	Certified product data sheets for coatings	9 VAC 5-50-50
IV-C-2	29a	Record monthly and annual consumption of VOC from each operational area	9 VAC 5-50-50
IV-C-3	29b	Record monthly and annual consumption of VOC from painting/coating processes	9 VAC 5-50-50
IV-C-4	29e	Record monthly and annual consumption of paints and coatings from each operational area and entire facility	9 VAC 5-50-50
IV-C-5	29f	Record monthly and annual throughput of trucks for painting and coating	9 VAC 5-50-50
IV-C-6	29i	Record monthly and annual emissions of VOC from painting/coating processes	9 VAC 5-50-50
IV-C-7	29m	Average lbs VOC per gallon of coatings in spray booths without VOC controls	9 VAC 5-50-50
IV-C-8	29n	Average annual HAP emissions to demonstrate compliance with MACTs	9 VAC 5-50-50
IV-C-9	29o	Records of pressure differential for particulate scrubbers and spray booths	9 VAC 5-50-50
IV-C-10	29p	Temperature records for 8PE-002 RTO	9 VAC 5-50-50
IV-D-1	12	Provide test ports at appropriate locations on request	9 VAC 5-50-30
IV-D-2	26	Stack testing on request for Basecoat Booth # 2 VOC control system	9 VAC 5-50-30
IV-D-3	27	Stack testing on request for particulate control from any or all spray booths	9 VAC 5-50-30
IV-D-4	28	VEEs on request for opacity from any or all spray booths	9 VAC 5-50-30
V-A-1	24	VOC emission limit for entire facility	9 VAC 5-50-260
V-A-2	36	Reduction or shutdown to avoid violation	9 VAC 5-20-180
V-A-3	34	Standards for maintenance & operation practices	9 VAC 5-50-20
V-C-1	29q	Certified product data sheets for coatings	9 VAC 5-50-50
V-C-2	29c	Record monthly and annual consumption of VOC from miscellaneous sources	9 VAC 5-50-50
V-C-3	29d	Record monthly and annual consumption of VOC from entire facility	9 VAC 5-50-50
V-C-4	26j	Record monthly and annual emissions of VOC from miscellaneous sources	9 VAC 5-50-50
V-C-5	26k	Record monthly and annual emissions of VOC from entire facility	9 VAC 5-50-50

Title V Condition	NSR Condition	Description	VAC Applicable Requirement
V-C-7	29r	Results from stack tests and VEEs	9 VAC 5-50-50
V-C-8	29s	Records of maintenance and training	9 VAC 5-50-50
V-C-10	35	Record of malfunctions	9 VAC 5-20-180
V-D-1	12	Provide test ports at appropriate locations on request	9 VAC 5-50-30
V-E-1	31	Notice of control equipment maintenance	9 VAC 5-20-180
V-E-2	32	Notice of malfunction	9 VAC 5-20-180
V-E-3	30	Malfunction causing exceedence report (with specifics)	9 VAC 5-20-180
VIII-F	30	Malfunction causing exceedence report	9 VAC 5-20-180
VIII-Q	33	Right of entry	9 VAC 5-170-130
VIII-S	39	Permit Copy	9 VAC 5-170-160
VIII-T	38	Change of ownership	9 VAC 5-80-10
VIII-V	37	Permit suspension/revocation	9 VAC 5-80-10

### Emission Inventory Related Requirements

The permit content requirements of the regulations for federal operating permits, 9 VAC 5-80-110, state that the permit should include conditions necessary determine the annual emissions of all pollutants for which the facility has the potential to be major. This coincides with the underlying philosophy of the Title V legislation which had as one of its purposes to achieve a more detailed picture of emissions from major source facilities. The table below summarizes the conditions that are needed to develop emission estimates for Hazardous Air Pollutants. One condition corresponds to a condition in the State-Only Enforceable Requirements section of the NSR permit. The corresponding NSR condition is noted in parentheses.

Permit Condition	Relation to Emission Inventory
IV-C-1, V-C-1	Requirement to determine material VOC content by EPA approved standards
V-C-6	Emission of HAPs from the facility as a whole (43b)

### Proper Equipment Operation

It is the practice of the Virginia Department of Environmental Quality to require in emission permits conditions that the emission sources, such as fuel burning equipment, be operated in a proper manner. These conditions fall into two categories. The first category is a general condition requiring proper operation and maintenance of equipment which applies under 9 VAC 5-170-160 for equipment in a NSR permit or existing equipment ancillary to the operation of the permitted equipment. The second category is specifications that equipment designed to operate under specific parameters be operated only under those parameters. These conditions are specifically addressed under 9 VAC 5-80-1100, et seq. for equipment in a construction permit but for existing equipment in an operating permit that is not subject to a construction permit, 9 VAC 5-170-160 is the requirement generally deemed to be applicable. Similar conditions were omitted from the Volvo permit as being extraneous during discussion of the draft permit. They are being

included in the Title V permit to further justify that record keeping and emission estimates based on fuel usage will be sufficient to demonstrate compliance with emission limits for combustion products. The basis of the combustion products emission limits in the NSR permit was the use of emission factors for natural gas at the maximum throughput limit, assuming properly operating equipment. As such, periodic stack testing of the combustion equipment seems unduly burdensome and these conditions are intended to demonstrate that the monthly emissions estimates are adequate to satisfy periodic monitoring requirements for this operating permit.

Condition III-A-6 is a general condition for proper operation of boilers, HVAC systems and air make-up heaters.

Condition III-B-1 is a requirement to maintain records and procedures supporting compliance with Condition III-A-6.

Taken together with the fuel usage conditions, these conditions define a scenario in which the proper operation of the combustion equipment at this facility are physically incapable of violating the particulate matter and sulfur dioxide standards for fuel burning equipment, 9 VAC 5-40-900 and 9 VAC 5-40-930. Using these conditions allows the permit to be written without explicit limits for SO<sub>2</sub> and PM from combustion sources, and to use emission estimates rather than stack tests for compliance assurance as discussed above.

### **Periodic Monitoring**

The permit content requirements of the regulations for federal operating permits, 9 VAC 5-80-110, state that the permit should include conditions for periodic monitoring sufficient to demonstrate that the facility is in compliance with the limits of the permit. The record keeping requirements are deemed sufficient to determine compliance with the emission limits for VOCs and combustion gasses. Record keeping for painting and coating and compliance with opacity limits is considered sufficient to demonstrate compliance with the emission limits for PM and PM-10. No opacity is expected to be observed under normal operation of the equipment. Under these conditions, a weekly Method 22 evaluation with requirement for Method 9 evaluation if opacity is observed is deemed sufficient to satisfy the periodic monitoring requirement.

Condition V-B-1 requires Method 22 evaluation of the incinerator and spray booths and, if opacity is observed, documentation of corrective action or a Method 9 evaluation to show the opacity is within permit limits.

Condition V-C-9 requires that records of the periodic monitoring results be maintained.

Compliance Assurance Monitoring requirements under 40 CFR Part 64 set additional requirements for emission control units that are subject to this regulation. General CAM requirements are specified in Conditions IV-B-3, IV-B-4, IV-B-5, IV-B-6, IV-B-7, IV-B-8, IV-B-9, IV-B-10, IV-C-11, and IV-E-1. Specific requirements for each CAM-subject unit are listed in Appendix A and described in greater detail in the facility's Compliance Assurance Monitoring Plan.

## **Streamlined Requirements**

Emission limits for particulate matter for fuel burning equipment apply only to the 6FBE-001 Wash Solution heater under the definition of fuel burning equipment or fuel burning installation. VDEQ contends that the gaseous fuel usage restriction and the good operating practice requirement for this unit is sufficient to create a de facto emission limit more stringent than the limit under 9 VAC 5-40-900.

## **GENERAL CONDITIONS**

The permit contains general conditions required by 40 CFR Part 70 and 9 VAC 5-80-110, that apply to all federal operating permit sources. These include requirements for submitting semi-annual monitoring reports and an annual compliance certification report. The permit also requires notification of deviations from permit requirements or any excess emissions, including those caused by upsets, within one business day.

## **STATE-ONLY APPLICABLE REQUIREMENTS**

The permittee elected to exclude such requirements from this permit. A portion of the record keeping provisions of the NSR state-only section are still required under this permit as a subset of the HAPs record keeping requirements under 9 VAC 5-80-110.

## **COMPLIANCE ASSURANCE MONITORING**

As required by 40 CFR Part 64, the permittee submitted a draft Compliance Assurance Monitoring Plan with the application for renewal of the federal operating permit. The draft plan was finalized during the permitting process to add one monitor and update references for the NSR permit, which was being modified on the application deadline.

Based on review of the submittal, the following control units and capture monitors are subject to Compliance Assurance Monitoring requirements:

- VOC: The regenerative thermal oxidizer controlling the 8PE-002 spray booth  
The differential pressure monitor for the 8PE-002 spray booth
- PM: The water wash and dry filters controlling the 1PE-001 spray booth  
The Venturi wet scrubber with dry filters controlling the 1PE-002 spray booth  
The Venturi wet scrubber controlling the 5PE-001 spray booth  
The Venturi wet scrubber controlling the 8PE-001 spray booth  
The Venturi wet scrubber controlling the 8PE-002 spray booth  
The Venturi wet scrubber controlling the 9PE-001 spray booth

The following emission units with control systems had less than 100 tons per year of uncontrolled potential emissions, and were therefore not subject to Compliance Assurance Monitoring requirements:

PM:   The dry filter controlling the 6PE-001 spray booth  
          The Venturi wet scrubber controlling the 7PE-001 spray booth  
          The dry filters controlling the 10PE-001 and 10PE-002 spray booths  
          The dry filter controlling the 11PE-001 spray booth  
          The water wash controlling the 13PE-001 spray booth  
          The cartridge filter controlling the 13PE-002 spray booth  
          The dry filter controlling the 13PE-004 spray booth

The renewed federal operating permit contains the elements of this plan required under 40 CFR 64.6(c). A summary of the CAM parameters for each subject control unit is included in Appendix A of the permit. Comprehensive details are in the plan itself.

Regarding the specifics of the CAM plan, the Venturi scrubbers used in most spray booths are not the typical pressurized liquid flow. The Volvo systems use a gravity overflow from a reservoir. While VDEQ feels that it would be desirable to measure liquid flow for the Venturis, this would require a very expensive retrofit involving ultrasonic flow meters, probably with a custom interface to the existing data acquisition system. Volvo believes that the expense of flow measurement for these control systems is excessive to the benefit gained. VDEQ agrees with this conclusion. Also, VDEQ believes that there is little benefit to explicitly monitoring capture parameters for particulate control in the spray booths, as inadequate particulate capture would be reflected in unacceptable product quality. Also these spray booths are so large that several fans are used for each booth, therefore a single fan power monitor is not feasible.



### INSIGNIFICANT EMISSION UNITS

The following emission units at the facility are identified in the application as insignificant emission units under 9 VAC 5-80-720:

Emission Unit No.	Emission Unit Description	Citation	Pollutant(s) Emitted (9 VAC 5-80-720 B)	Rated Capacity (9 VAC 5-80-720 C)
FBAD-1	Cleaver Brooks boiler, Model CB-60HP, n.g.	9 VAC 5-80-720C	PM, CO, VOC, SO <sub>2</sub> , NO <sub>x</sub>	2,500,000 BTU/hr
FBAD-2	Lochinvar water heater, CNA 726-080-0F9, n.g.	9 VAC 5-80-720C	PM, CO, VOC, SO <sub>2</sub> , NO <sub>x</sub>	725,000 BTU/hr
FBBIW2A, FBBIW2B	Two PVI Water Heaters, n.g.	9 VAC 5-80-720C	PM, CO, VOC, SO <sub>2</sub> , NO <sub>x</sub>	399,000 BTU/hr each
FBBIW1A-FBBIW1H	Eight HV Space Heating Units, n.g.	9 VAC 5-80-720C	PM, CO, VOC, SO <sub>2</sub> , NO <sub>x</sub>	3,000,000 BTU/hr each
WELD	Portable welders for equipment maintenance	9 VAC 5-80-720A	PM, CO, SO <sub>2</sub> , NO <sub>x</sub>	NA
PW1-PW5	Five cold cleaner parts washers	9 VAC 5-80-720B	VOC	VOC < 5 tpy
PMSB-1	One small paint spray booth for test panels	9 VAC 5-80-720B	VOC	VOC < 5 tpy
PMBT1-8	Eight 175 gallon bulk tanks for paint/solvent	9 VAC 5-80-720B	VOC	VOC < 5 tpy
FBAB1A – FBAB1I	Nine Door Heaters	9 VAC 5-80-720C	PM, CO, VOC, SO <sub>2</sub> , NO <sub>x</sub>	475,200 BTU/hr to 1,900,800 BTU/hr
FBAB2A-FBAB2CC	Twenty-Nine HV Space Heating Units, n.g.	9 VAC 5-80-720C	PM, CO, VOC, SO <sub>2</sub> , NO <sub>x</sub>	302,400 BTU/hr to 3,460,000 BTU/hr
FBAB3A, FBAB3B	Two Air Houses for space heating, n.g.	9 VAC 5-80-720C	PM, CO, VOC, SO <sub>2</sub> , NO <sub>x</sub>	6,804,000 BTU/hr each
FBAB4	Assembly Bldg Boiler	9 VAC 5-80-720C	PM, CO, VOC, SO <sub>2</sub> , NO <sub>x</sub>	3,600,000 BTU/hr
FBAB5A-FBAB5F	Six MAU Space Heating Units, n.g.	9 VAC 5-80-720C	PM, CO, VOC, SO <sub>2</sub> , NO <sub>x</sub>	3,024,000 BTU/hr each
FBAB6A, FBAB6B	Two MAU Space Heating Units, n.g.	9 VAC 5-80-720C	PM, CO, VOC, SO <sub>2</sub> , NO <sub>x</sub>	1,814,400 BTU/hr each
FBSB1A, FBSB1B	Two HV Space Heating units, n.g.	9 VAC 5-80-720C	PM, CO, VOC, SO <sub>2</sub> , NO <sub>x</sub>	3,456,000 BTU/hr total
FBWTB	Dyno Water Test Unit	9 VAC 5-80-720C	PM, CO, VOC, SO <sub>2</sub> , NO <sub>x</sub>	388,800 BTU/hr
FBPC1A – FBPC1D	Four HV Space Heating units, n.g.	9 VAC 5-80-720C	PM, CO, VOC, SO <sub>2</sub> , NO <sub>x</sub>	8,294,400 BTU/hr total
FBPC2A-FBPC2F	Six IR Door Heaters, unvented	9 VAC 5-80-720C	PM, CO, VOC, SO <sub>2</sub> , NO <sub>x</sub>	75,000 BTU/hr each
FBPC3A, FBPC3B	Two HV Unit MUA 021, 022	9 VAC 5-80-720C	PM, CO, VOC, SO <sub>2</sub> , NO <sub>x</sub>	2.203 MMBTU/hr each
FBPC4	Old Chassis Booth MUA 023	9 VAC 5-80-720C	PM, CO, VOC, SO <sub>2</sub> , NO <sub>x</sub>	5.5 MMBTU/hr

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Emission Unit No.	Emission Unit Description	Citation	Pollutant(s) Emitted (9 VAC 5-80-720 B)	Rated Capacity (9 VAC 5-80-720 C)
FBPC5A-FBPC5L	Eleven Dravo Door Heaters	9 VAC 5-80-720C	PM, CO, VOC, SO <sub>2</sub> , NO <sub>x</sub>	475,200 BTU/hr – 1,900,800 BTU/hr
FBPC6	One ENG-A HV unit	9 VAC 5-80-720C	PM, CO, VOC, SO <sub>2</sub> , NO <sub>x</sub>	2.112 MMBTU/hr
FBDF1A – FBDF1O	Fifteen IR Door Heaters (vented)	9 VAC 5-80-720C	PM, CO, VOC, SO <sub>2</sub> , NO <sub>x</sub>	75,000 BTU/hr each
FBDF2A, FBDF2B	Two Building MUA	9 VAC 5-80-720C	PM, CO, VOC, SO <sub>2</sub> , NO <sub>x</sub>	4.0 MMBTU/hr each
WWTP003	Batch waste water treatment plants	9 VAC 5-80-720B	VOC	VOC < 5 tpy
WWTF1A-WWTF1C	Three Building Gas Unit Heaters	9 VAC 5-80-720C	PM, CO, VOC, SO <sub>2</sub> , NO <sub>x</sub>	150,000 BTU/hr each
WWTF2	One Office HVAC	9 VAC 5-80-720C	PM, CO, VOC, SO <sub>2</sub> , NO <sub>x</sub>	45,000 BTU/hr
BIWW1A-BIWW1M	Thirteen IR Door Heaters (vented)	9 VAC 5-80-720C	PM, CO, VOC, SO <sub>2</sub> , NO <sub>x</sub>	75,000 BTU/hr each
BIWW2A-BIWW2I	Nine Building MUA	9 VAC 5-80-720C	PM, CO, VOC, SO <sub>2</sub> , NO <sub>x</sub>	2.25 MMBTU/hr each
ASW1A – ASW1CC	Twenty-Nine IR Door Heaters (vented)	9 VAC 5-80-720C	PM, CO, VOC, SO <sub>2</sub> , NO <sub>x</sub>	75,000 BTU/hr each
ASW2	One HVAC Unit	9 VAC 5-80-720C	PM, CO, VOC, SO <sub>2</sub> , NO <sub>x</sub>	250,000 BTU/hr
ASW3A – ASW3L	Twelve Building MUA	9 VAC 5-80-720C	PM, CO, VOC, SO <sub>2</sub> , NO <sub>x</sub>	2.25 MMBTU/hr each
FBNBW1	HV Unit, n.g	9 VAC 5-80-720C	PM, CO, VOC, SO <sub>2</sub> , NO <sub>x</sub>	625,000 BTU/hr
FBNBW2	HV Unit, n.g	9 VAC 5-80-720C	PM, CO, VOC, SO <sub>2</sub> , NO <sub>x</sub>	842,000 BTU/hr
FBNBW3	Trane HV Unit, n.g	9 VAC 5-80-720C	PM, CO, VOC, SO <sub>2</sub> , NO <sub>x</sub>	500,000 BTU/hr
FBNWB4A FBNWB4C	Three Trane HV Units, n.g.	9 VAC 5-80-720C	PM, CO, VOC, SO <sub>2</sub> , NO <sub>x</sub>	250,000 BTU/hr each
FBNWB5A FBNWB5H	Eight dock heaters n.g.	9 VAC 5-80-720C	PM, CO, VOC, SO <sub>2</sub> , NO <sub>x</sub>	91,200 BTU/hr each
FBNWB6A FBNWB6H	Eight MUA 002-009	9 VAC 5-80-720C	PM, CO, VOC, SO <sub>2</sub> , NO <sub>x</sub>	3.127 MMBTU/hr each
FBNWB7A FBNWB7H	Eight HV Units 013-020	9 VAC 5-80-720C	PM, CO, VOC, SO <sub>2</sub> , NO <sub>x</sub>	5.5 MMBTU/hr each
FBNWB8A FBNWB8C	Three HV Units 010-012	9 VAC 5-80-720C	PM, CO, VOC, SO <sub>2</sub> , NO <sub>x</sub>	4.59 MMBTU/hr each
FBNWB9	One HV Unit 024	9 VAC 5-80-720C	PM, CO, VOC, SO <sub>2</sub> , NO <sub>x</sub>	3.4 MMBTU/hr
FBNWB10A & B	Two 40 ton HVAC Units	9 VAC 5-80-720C	PM, CO, VOC, SO <sub>2</sub> , NO <sub>x</sub>	1.062 MMBTU/hr each
FBNWB11	One 60 ton HV Unit	9 VAC 5-80-720C	PM, CO, VOC, SO <sub>2</sub> , NO <sub>x</sub>	885,000 BTU/hr
FBNWB12 A-D	Four PAC units	9 VAC 5-80-720C	PM, CO, VOC, SO <sub>2</sub> , NO <sub>x</sub>	123,600 BTU/hr to 545,900 BTU/hr
FBNWB13 A&B	Two water heaters	9 VAC 5-80-720C	PM, CO, VOC, SO <sub>2</sub> , NO <sub>x</sub>	412,000 BTU/hr each
FBNWB14 A, B & C	Three PAC Units	9 VAC 5-80-720C	PM, CO, VOC, SO <sub>2</sub> , NO <sub>x</sub>	1.318 MMBTU/hr - 1.54 MMBTU /hr

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Emission Unit No.	Emission Unit Description	Citation	Pollutant(s) Emitted (9 VAC 5-80-720 B)	Rated Capacity (9 VAC 5-80-720 C)
FBNWB15 A, B & C	Three PAC Units	9 VAC 5-80-720C	PM, CO, VOC, SO <sub>2</sub> , NO <sub>x</sub>	64,890 BTU/hr to 735,420 BTU/hr
FBNWB16 A-O	Fifteen Door Heaters	9 VAC 5-80-720C	PM, CO, VOC, SO <sub>2</sub> , NO <sub>x</sub>	77,250 BTU/hr each
FBNWB17 A & B	Two Paint Dock Door Heaters	9 VAC 5-80-720C	PM, CO, VOC, SO <sub>2</sub> , NO <sub>x</sub>	226,000 BTU/hr each
FBNWB18	One Door Heater	9 VAC 5-80-720C	PM, CO, VOC, SO <sub>2</sub> , NO <sub>x</sub>	875,000 BTU/hr
FBNWB19 A & B	Two Direct Fired Burners	9 VAC 5-80-720C	PM, CO, VOC, SO <sub>2</sub> , NO <sub>x</sub>	8.24 MMBTU/hr each
FBNWB20	One MUA	9 VAC 5-80-720C	PM, CO, VOC, SO <sub>2</sub> , NO <sub>x</sub>	659,200 BTU/hr
FORKLIFT	Forty-Two Gas Powered Forklifts	9 VAC 5-80-720A	PM, CO, VOC, NO <sub>x</sub>	NA
PDSL001	Diesel Fuel Tank	9 VAC 5-80-720B	VOC	VOC < 5 tpy
EGEN	Emergency Generator, diesel	9 VAC 5-80-720C	PM, CO, VOC, SO <sub>2</sub> , NO <sub>x</sub>	150 KW (201 bhp)
GEN0001	Diesel Fuel Tank	9 VAC 5-80-720B	VOC	VOC < 5 tpy
AST-101	SCH 50 Wt Oil Tank	9 VAC 5-80-720B	VOC	VOC < 5 tpy
AST-102	Trans. Fluid Tank	9 VAC 5-80-720B	VOC	VOC < 5 tpy
AST-103	Anti-Freeze Tank	9 VAC 5-80-720B	VOC	VOC < 5 tpy
AST-104	15W40 Oil Tank	9 VAC 5-80-720B	VOC	VOC < 5 tpy
AST-105	75W90 storage tank, aluminum, heat-traced	9 VAC 5-80-720B	VOC	VOC < 5 tpy
AST-106	Freon 134A Tank	9 VAC 5-80-720B	VOC	VOC < 5 tpy
AST-107	Methanol Tank	9 VAC 5-80-720B	VOC	VOC < 5 tpy
AST-108	Diesel Fuel Tank	9 VAC 5-80-720B	VOC	VOC < 5 tpy
AST-109	Anti-Freeze Tank	9 VAC 5-80-720B	VOC	VOC < 5 tpy
AST-110	80W90 Tank	9 VAC 5-80-720B	VOC	VOC < 5 tpy
AST-111	80W90 Tank	9 VAC 5-80-720B	VOC	VOC < 5 tpy
AST-112	Anti-Freeze Tank	9 VAC 5-80-720B	VOC	VOC < 5 tpy
AST-201	Purge Solvent Tank	9 VAC 5-80-720B	VOC	VOC < 5 tpy
AST-202	Paint Waste Tank	9 VAC 5-80-720B	VOC	VOC < 5 tpy
AST-301	Gasoline storage tank, 550 gal near PC bldg	9 VAC 5-80-720B	VOC	VOC < 5 tpy
AST-401 – AST-408	Eight 30,000 gallon propane storage tanks	9 VAC 5-80-720B	VOC	VOC < 5 tpy
AST-501	Diesel Fuel Tank	9 VAC 5-80-720B	VOC	VOC < 5 tpy
AST-502	Diesel Fuel Tank	9 VAC 5-80-720B	VOC	VOC < 5 tpy
TUBEHTR1	SpaceRay Tube Heater	9 VAC 5-80-720C	PM, CO, VOC, SO <sub>2</sub> , NO <sub>x</sub>	750,000 BTU/hr
6PE-001	Prep/Sand Booth	9 VAC 5-80-720B	PM	PM < 5 tpy
12FBE-002	Space Air Unit # 1-S	9 VAC 5-80-720C	PM, CO, VOC, SO <sub>2</sub> , NO <sub>x</sub>	8.0 MMBTU/hr
12FBE-003	Space Air Unit # 1-N	9 VAC 5-80-720C	PM, CO, VOC, SO <sub>2</sub> , NO <sub>x</sub>	9.5 MMBTU/hr

These insignificant emission units are presumed to be in compliance with all requirements of the federal Clean Air Act as may apply. Based on this presumption, no monitoring, recordkeeping, or reporting shall be required for these emission units in accordance with 9 VAC 5-80-110.

## **CONFIDENTIAL INFORMATION**

No information contained in the permit application or in the specific records required by the permit is considered confidential. However, the specific emission factors of the database used to generate portions of the required records are regarded as confidential, in that the factors reflect proprietary paint and coating formulations. If any material requested by VDEQ, USEPA or another government agency contains information that includes the actual emission factors from the Volvo database, that material should be considered confidential.

## **PUBLIC PARTICIPATION**

A public notice regarding the draft permit was printed in the November 18, 2007, edition of the Roanoke Times, New River Valley Edition. Public comments were accepted from November 18, 2007 through December 19, 2007. No public comments were received. USEPA reviewed this permit with concurrent processing as draft and proposed document. The final day for USEPA comments was January 3, 2008. No comments were received from USEPA.

## APPENDIX A: NSR/FOP CORRESPONDENCE TABLE

The following table is a modification of the table in the section Emission Unit Applicable Requirements – New Source Review Permit Requirements. This table is ordered corresponding to the NSR permit conditions as an aid to reference the corresponding federal operating permit conditions. The NSR permit follows in Appendix B.

NSR Condition	Title V Condition	Description	VAC Applicable Requirement
2	IV-A-1	BACT as design specifications cited for particulate control devices	9 VAC 5-80-1180, 9 VAC 5-50-260
3	IV-A-2	BACT as water-based or high solids coatings in certain applications	9 VAC 5-80-1180, 9 VAC 5-50-260
4	IV-A-3	BACT as water-based primers	9 VAC 5-50-260
5	IV-A-4	BACT as water-based E-coat	9 VAC 5-50-260
6	IV-A-5, IV-B-2	Basecoat Booth #2 VOC incinerator with instrument and monitoring requirements	9 VAC 5-80-1180, 9 VAC 5-50-260
7	IV-A-6	VOC Content limit (lbs/gal) as BACT for spray booths without VOC controls	9 VAC 5-80-1180, 9 VAC 5-50-260, 9 VAC 5-50-180
8	IV-A-7	HAP content limits on coatings as annual average [MACTs MMMM & PPPP]	9 VAC 5-80-1180, 9 VAC 5-60-100
9	IV-A-8	Minimize cleaning & purging emissions	9 VAC 5-40-20
10	IV-A-9	Alternative control procedure	9 VAC 5-80-110
11	IV-B-1	Spray booths particulate control monitoring (pressure differential gauges)	9 VAC 5-80-1180, 9 VAC 5-50-20, 9 VAC 5-50-260
12	III-D-1, IV-D-1, V-D-1	Provide test ports at appropriate locations on request	9 VAC 5-50-30
13	IV-A-12	Annual VOC throughput limit for coating content	9 VAC 5-80-1180, 9 VAC 5-80-110
14	IV-A-13	Monthly VOC throughput limit for coating content	9 VAC 5-80-1180, 9 VAC 5-80-110
15	III-A-1	Approved fuels are natural gas & propane	9 VAC 5-80-1180
16	III-A-2	Natural gas annual throughput limit	9 VAC 5-80-1180
17	III-A-5	Compliance with NSPS Dc	9 VAC 5-50-410
18	IV-A-10	Requirements by reference MACT MMMM	9 VAC 5-60-100
19	IV-A-11	Requirements by reference MACT PPPP	9 VAC 5-60-100
20	IV-A-14	VOC emission limit on Multi-Tone Spray Booth 8PE-001	9 VAC 5-50-260, 9 VAC 5-80-1615
21	IV-A-15	VOC emission limit for painting/coating for all spray booths combined	9 VAC 5-50-260, 9 VAC 5-80-1615
22	III-A-3	Combustion product emission limits	9 VAC 5-50-260
23	IV-A-16	Particulate emission limits for spray booths broken down by operation unit	9 VAC 5-50-260, 9 VAC 5-50-30
24	V-A-1	VOC emission limit for entire facility	9 VAC 5-50-260
25	III-A-4, IV-A-17	Visible emissions limit for ovens, spray booths and incinerators	9 VAC 5-50-260
26	IV-D-2	Stack testing on request for Basecoat Booth # 2 (8PE-002) VOC/HAP control system	9 VAC 5-50-30
27	IV-D-3	Stack testing on request for particulate control from any or all spray booths	9 VAC 5-50-30
28	IV-D-4	VEEs on request for opacity from any or all spray booths	9 VAC 5-50-30
NSR	Title V	Description	VAC Applicable Requirement

Condition	Condition		
29a	IV-C-2	Monthly and annual consumption of VOC from each operational area	9 VAC 5-50-50
29b	IV-C-3	Monthly and annual consumption of VOC from painting/coating processes	9 VAC 5-50-50
29c	V-C-2	Monthly and annual consumption of VOC from miscellaneous sources	9 VAC 5-50-50
29d	V-C-3	Monthly and annual consumption of VOC from entire facility	9 VAC 5-50-50
29e	IV-C-4	Monthly and annual consumption of paints and coatings - each area and entire facility	9 VAC 5-50-50
29f	IV-C-5	Monthly and annual throughput of skids for painting and coating	9 VAC 5-50-50
29g	III-C-1	Monthly and annual consumption of natural gas for entire facility	9 VAC 5-50-50
29h	III-C-2	Monthly and annual consumption of natural gas for the phosphate system heater	9 VAC 5-50-50, (NSPS Dc)
29i	IV-C-6	Monthly and annual emissions of VOC from painting/coating processes	9 VAC 5-50-50
29j	V-C-4	Monthly and annual emissions of VOC from miscellaneous sources	9 VAC 5-50-50
29k	V-C-5	Monthly and annual emissions of VOC from entire facility	9 VAC 5-50-50
29l	III-C-3	Monthly and annual emissions from gas and propane combustion for entire facility	9 VAC 5-50-50
29m	IV-C-7	Average lbs VOC per gallon of coatings in spray booths without VOC controls	9 VAC 5-50-50
29n	IV-C-8	Average annual HAP emissions to demonstrate compliance with MACTs	9 VAC 5-50-50
29o	IV-C-9	Records of pressure differential for particulate scrubbers and spray booths	9 VAC 5-50-50
29p	IV-C-10	Temperature records for 8PE-002 RTO	9 VAC 5-50-50
29q	IV-C-1, V-C-1	Certified product data sheets for coatings	9 VAC 5-50-50
29r	V-C-7	Results from stack tests and VEEs	9 VAC 5-50-50
29s	V-C-8	Records of maintenance and training	9 VAC 5-50-50
30	V-E-1, VIII-F	Malfunction report	9 VAC 5-20-180
31	V-E-2	Notice of control equipment maintenance	9 VAC 5-20-180
32	V-E-3	Notice of control equipment malfunction	9 VAC 5-20-180
33	VIII-Q	Right of entry	9 VAC 5-170-130
34	III-A-7, V-A-3	Maintenance & operation practice	9 VAC 5-50-20
35	V-C-10	Record of malfunctions	9 VAC 5-20-180
36	V-A-2	Reduction or shutdown to avoid violation	9 VAC 5-20-180
37	VIII-V	Permit suspension/revocation	9 VAC 5-80-1210
38	VIII-T	Change of ownership	9 VAC 5-80-10
39	VIII-S	Permit Copy	9 VAC 5-80-110
40	NA	State toxics limit on lead chromate usage	(9 VAC 5-170-160)
41	NA	Control efficiency for E-Coat incinerator	(9 VAC 5-40-130)
42	NA	Stack tests for E-Coat incinerator	9 VAC 5-50-30
43a	NA	Temperature of E-Coat odor incinerator	9 VAC 5-50-50
43b	NA	Emissions by total plant of all HAPs	9 VAC 5-50-50
44	NA	HAP process malfunction shutdown	9 VAC 5-20-180

**APPENDIX B: NSR PERMIT DATED March 7, 2007, as amended August 21, 2007**

The permit, with its own page numbering, follows.